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(54) Title: DETECTION AND REMOVAL OF BLEMISHES IN DIGITAL IMAGES UTILIZING ORIGINAL IMAGES OF DEFOCUSED SCENES

(57) Abstract: A method automatically corrects dust artifact within images acquired by a system including a digital acquisition device including a lens assembly and a translucent lens cap. Multiple original digital images are acquired with the digital acquisition device (101). Probabilities that certain pixels correspond to dust artifact regions within the images are determined based at least in part on a comparison of suspected dust artifact regions within two or more of the images (140). Probable dust artifact regions are associated with extracted parameter values relating to the lens assembly when the images were acquired. A statistical dust map is formed including mapped dust regions based on the determining and associating (130). Pixels corresponding to correlated dust artifact regions are corrected within further digitally-acquired images based on the associated statistical dust map (400).

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER IPC: H04N 9/64(2006.01) USPC: 348/243,348/251 According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) U.S. : 348/243,348/251 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2005/0001910 (Hoshuyama - 1/6/2005) Figures 1-3, Figure 6, Figure 8; [0134], Lines 1-11, [0038], [0072] - [0077], [0137], Lines 3-5	1,3-5,7,8,10,11,13-17,19 and 20
Y	Hylen (US # 6,167,206) - Col. 6, Lines 43-52	1,3-5,7,8,10,11 and 13-16
Y	Wengender (US 2004/0037457) Figure 3	1,3,17,19 and 20
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
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"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O"	document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
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Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201		Authorized officer Lin Ye Telephone No. (703) 305-9600